ANSI/ABMA
Std. 26.2 - 1994

AMERICAN NATIONAL STANDARD
ABMA STANDARD

THIN SECTION BALL BEARINGS

INCH DESIGN

Sponsored by

American Bearing Manufacturers Association

Approved May 23, 1994

American National Standards Institute

AMERICAN NATIONAL STANDARD

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FOREWORD

(This foreword is not a part of American National Standard for Thin Section Ball Bearings - Inch Design, ANSI/ABMA Standard 26.2.)

This Standard covers inch design thin section ball bearings with a fixed cross section in series and types which have been in general use in the U.S.A. in recent years, as well as recommended extra width series which may be necessary to accommodate closures. These bearings are unique in that, within a given series, the bearing cross-section remains constant irrespective of the bore diameter. Ball bearings of single row, radial contact; single row, angular contact; and single row, four-point angular contact are covered.

The dimensions and tolerances stated in this standard are based on U.S.A. customary (inch-pound) units. A soft conversion to metric units for the various tables in this standard is provided in Annex A for the convenience of the user.

Suggestions for the improvement of this standard gained through experience with its use will be welcomed. These should be sent to the American National Standards Institute, Inc., 11 West 42nd Street, 13th Floor, New York, NY 10036.

The officers of Accredited Standards Committee B3 of the American National Standards Institute and the organizations represented at the time this standard was submitted are as follows:

W. G. Looft, Chairman
G. T. Satterfield, Secretary

American Bearing Manufacturers Association
Hydraulic Institute
Association for Manufacturing Technology
Society of Tribologists and Lubrication Engineers
U. S. Department of Defense, DISC
U. S. Department of the Navy

ABMA (formerly AFBMA) Standards
for
Ball and Roller Bearings

1 - Terminology for Anti-Friction Ball and Roller Bearings and Parts
4 - Tolerance Definitions and Gauging Practices for Ball and Roller Bearings
7 - Shaft and Housing Fits for Metric Radial Ball and Roller Bearings (Except Tapered Roller Bearings) Conforming to Basic Boundary Plans
8.1 - Mounting Accessories, Metric Design
8.2 - Mounting Accessories, Inch Design
9 - Load Ratings and Fatigue Life for Ball Bearings
10 - Metal Balls
11 - Load Ratings and Fatigue Life for Roller Bearings
12.1 - Instrument Ball Bearings, Metric Design
12.2 - Instrument Ball Bearings, Inch Design
13 - Rolling Bearing Vibration and Noise (Methods of Measuring)
14 - Housings for Bearings with Spherical Outside Surfaces
15 - Ball Bearings with Spherical Outside Surfaces and Extended Inner Ring Width (Includes Eccentric Locking Collars)
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16.2 - Airframe Ball, Roller, and Needle Roller Bearings, Inch Design
17 - Needle Rollers, Metric Design
18.1 - Needle Roller Bearings, Radial, Metric Design
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20 - Radial Bearings of Ball, Cylindrical Roller and Spherical Roller Types, Metric Design
21.1 - Thrust Needle Roller and Cage Assemblies and Thrust Washers, Metric Design
21.2 - Thrust Needle Roller and Cage Assemblies and Thrust Washers, Inch Design
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24.2 - Thrust Bearings of Ball and Cylindrical Roller Types - Inch Design
25.2 - Rolling Bearings, Linear Motion, Recirculating Ball, Sleeve Type - Inch Series
26.2 - Thin Section Ball Bearings - Inch Design

An ABMA Standard is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an ABMA Standard does not in any respect preclude anyone, whether he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standard. ABMA Standards are subject to revision or withdrawal at any time and users who refer to an ABMA Standard should satisfy themselves that they have the latest information from the Association.

THIN SECTION BEARINGS
INCH DESIGN

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THIN SECTION BALL BEARINGS INCH DESIGN

1 Scope

This standard specifies the boundary dimensions and the tolerances for boundary dimensions, running accuracies and internal clearances for thin section ball bearings of single row radial contact, angular contact and four-point angular contact types.

2 References

ANSI/ABMA Standard 1, Terminology for Anti-Friction Ball and Roller Bearings and Parts.

ANSI/ABMA Standard 4, Tolerance Definitions and Gauging Practices for Ball and Roller Bearings.

ANSI/ABMA Standard 7, Shaft and Housing Fits for Metric Radial Ball and Roller Bearings (except Tapered Roller Bearings) Conforming to Basic Boundary Plans.

ANSI/ABMA Standard 9, Load Ratings and Fatigue Life for Ball Bearings.

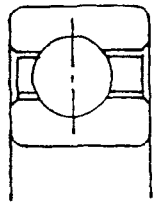
3 Terminology

3.1 Types of bearings

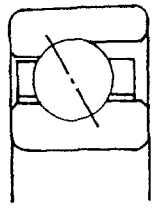
3.1.1 Thin section ball bearing, radial contact (Type C). A deep groove ball bearing, or filling slot ball bearing, designed to support primarily radial load.

3.1.2 Thin section ball bearing, angular contact (Type A). A non-separable angular contact ball bearing with a counter-bored outer ring and a nominal 30° axial contact angle.

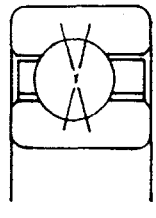
3.1.3 Thin section ball bearing, four-point contact (Type X). A four point contact ball bearing with a nominal 30° radial contact angle.



Type C



Type A



Type X

Figure 1 - Types of thin section bearings

3.1.4 Thin section ball bearing with closures. Any one of the preceding three design types with a contact seal or grease shield fitted on one or both sides.